What is claimed is:

1. A micro capsule robot comprising:

a body unit;

a body movement control unit, which is installed on an outer circumferential surface of the body unit, including a linear driving device, and wings which are unfolded from the outer circumferential surface of the body unit by operation of the linear driving device for controlling to a movement of the body unit; and

a controlling unit installed in the body unit for controlling the body movement control unit.

2. The robot of claim 1, wherein the body unit includes a loading space for loading inner devices formed on center portion thereof.

3. The robot of claim 2, wherein a camera device, a lighting device and a sensor for recognizing movements of the body unit are installed on the loading space.

4. The robot of claim 1, wherein the linear driving device comprises:

a fixing frame fixedly installed on the outer circumferential surface of the body unit;

a rotary shaft, on which one end of the wing is fixedly installed, fixedly installed on one end of the fixing frame; and

a linear driver wound on the rotary shaft in a state that one end is fixed on

the rotary shaft and the other end is fixed on the fixing frame, and extended by a control signal of a controlling unit to rotate the rotary shaft so as to unfold the wings.

5. The robot of claim 4, wherein an elastic member for returning the wings to the body unit from the unfolded state is additionally installed on the rotary shaft.

6. The robot of claim 4, wherein the body unit includes a concave recess portion formed on the outer circumferential surface of the body unit in a lengthy direction of the body unit so as to be corresponded to the wings for receiving and fixing the body movement control unit.

7. The robot of claim 6, wherein the concave recess portion and the fixing frame are formed as integrally with each other.

8. The robot of claim 4, wherein a second rotary shaft is additionally installed on the other end of the fixing frame, and the linear driver is wound on the second rotary shaft.

9. The robot of claim 1, wherein suction portions which are fixed on inner wall of an organ when these are contacted to the inner wall of the organ are additionally installed on an end of the wings.

10. The robot of claim 9, wherein the suction portion includes a fixing

axis fixedly installed on the end of the wing, an auxiliary plate rotatably coupled to the fixing axis , and a bellows mounted on the auxiliary plate and fixedly adsorbed on the inner wall of the organ.

11. The robot of claim 9, wherein a recovery spring for returning the bellows to the original status when the bellows is separated from the inner wall of the organ is additionally installed on the fixing axis.

12. The robot of claim 1, wherein the number of the body movement control unit is constructed to be plural and disposed on the outer circumferential surface of the body unit in a radial direction of the body unit.

13. The robot of claim 1, wherein a length of the wing is changed according to the control signal of the controlling unit.

14. The robot of claim 1, wherein the wing comprises:

a lower plate on which a slot is formed;

an upper plate coupled to the lower plate to be slid along with the slot; and

a sliding linear driver connected between the upper and lower plates and extended by the control signal of the controlling unit for making the upper plate slid along with the slot.

15. The robot of claim 14, wherein the body movement control unit is constructed to be two or more pairs, and moves in the organ by changing the length of the wing when a pair of body movement control units are fixed on the

inner wall of the organ.

16. The robot of claim 1, wherein the linear driving device comprises:

a fixing frame fixedly installed on the outer circumferential surface of the body unit;

a first rotary shaft, on which the pair of wings is fixedly installed, installed on a center of the fixing frame;

a pair of second rotary shafts installed on both ends of the fixing frame; and

a pair of linear drivers wound on the first and second rotary shafts in the state that one ends are fixedly installed on the first rotary shaft and the other ends are fixedly installed on the fixing frame, and extended by the control signal of the controlling unit for rotating the first rotary shaft so as to unfold the wings.

17. The robot of claim 16, wherein a body moving unit for moving the body unit by making the fixing frame linearly move when the body movement control unit is fixed on the inner wall of the organ is additionally installed on the body unit.

18. The robot of claim 17, wherein the body moving unit comprises:

a concave recess portion formed on the outer circumferential surface of the body unit for receiving the fixing frame so that the fixing frame can be linearly moved;

a linear driver installed on one end of the fixing frame and extended by the control signal of the controlling unit for moving the fixing frame to the lengthy

direction of the body unit; and

an elastic member installed on the other end of the fixing frame and on the concave recess portion for returning the fixing frame to the original position.

19. The robot of claim 1, wherein the wing comprises:

a lower plate on which a slot is formed;

an upper plate coupled to the lower plate so as to be slid along with the slot and forming nippers with a free end of the lower end;

a supporting shaft installed on the lower plate with a certain distance from the fixed end as passing through the slot; and

an elastic member connected between the upper and lower plates so that the upper plate can be recovered to the original position,

and the linear driving device comprises:

a fixing frame fixedly installed on the outer circumferential surface of the body unit;

a rotary shaft, on which the fixed end of the lower plate is fixedly installed, fixedly installed on the fixing frame; and

a linear driver having one end fixed on the lower plate and the other end fixed on the fixing frame as passing through the supporting shaft and the rotary shaft, and extended by the control signal of the controlling unit for rotating the rotary shaft so as to unfold the wings.

20. The robot of claim 4, wherein the linear driver is a shape memory alloy wire, a piezo or an electro active polymer.